

## **ABSTRACT**

Disclosed is a CMOS variable gain amplifier. The variable gain amplifier comprises a first means for first and second differential input voltages, a second means for controlling its transconductance to generate an output current according to a control voltage, a third means for a bias voltage to generate bias current by current mirror, and to supply a stabilized bias current to the second means using the replica current, and a fourth means for generating an output voltage with a variable gain according to control voltage by its output current generated in the second means. Therefore, the present invention provides a function of controlling low distortion and high linearity in low voltage and a high-speed operation by the supply of a stabilized sharing current bias, and can control a voltage gain in a wide range by the control voltage.